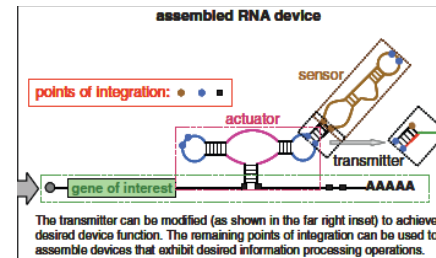


RNA-Based Gene Regulation

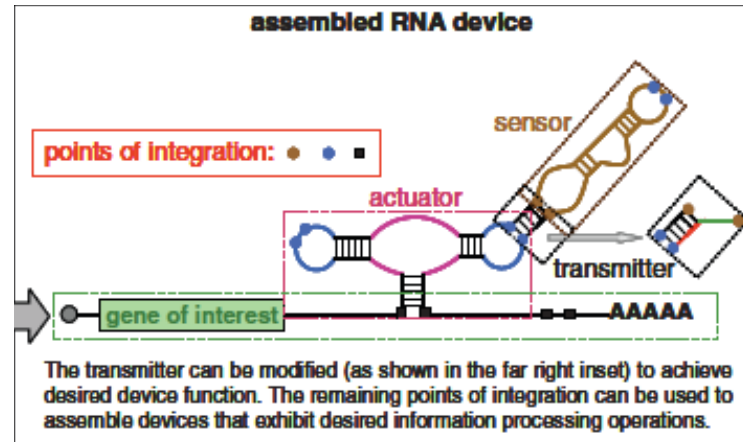
by Leon Lin

Why Do This Project?

- It's new, but not too new
- It's an incredibly powerful tool with a simple mechanism
- We have research at Stanford already being conducted



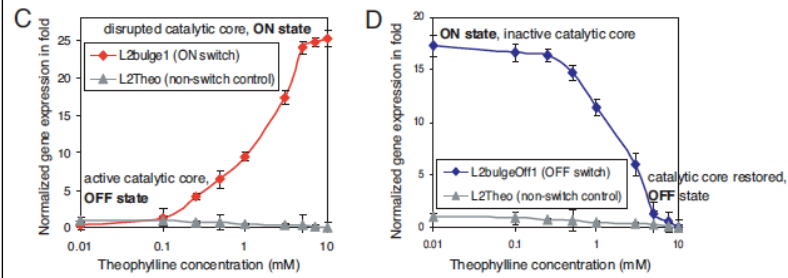
Modifying the Sensor



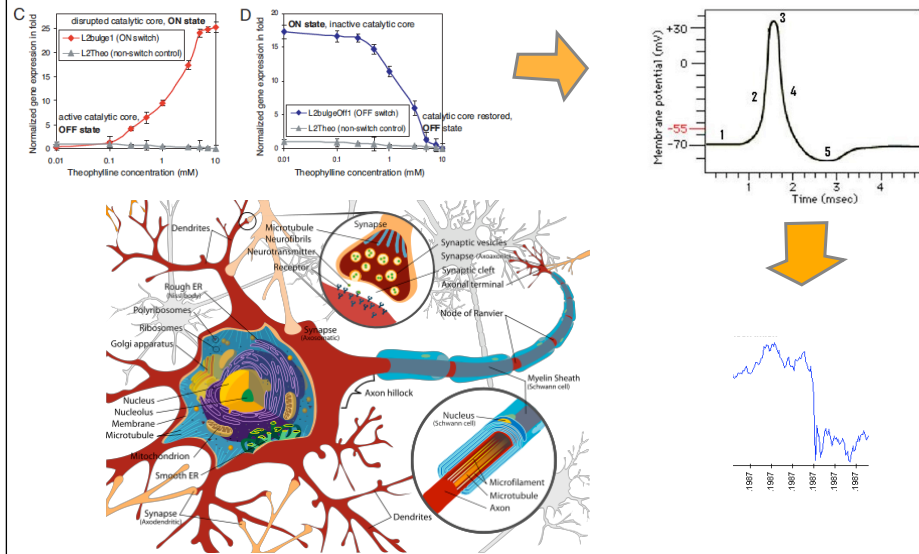
Why Change the Sensor?



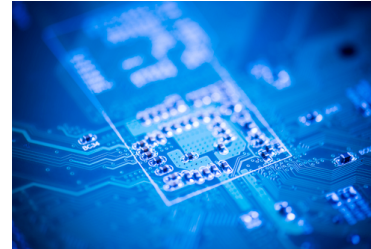
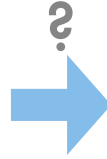
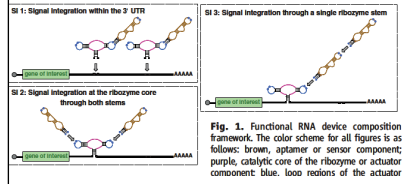
Action Potential



Multiple Receptor Devices

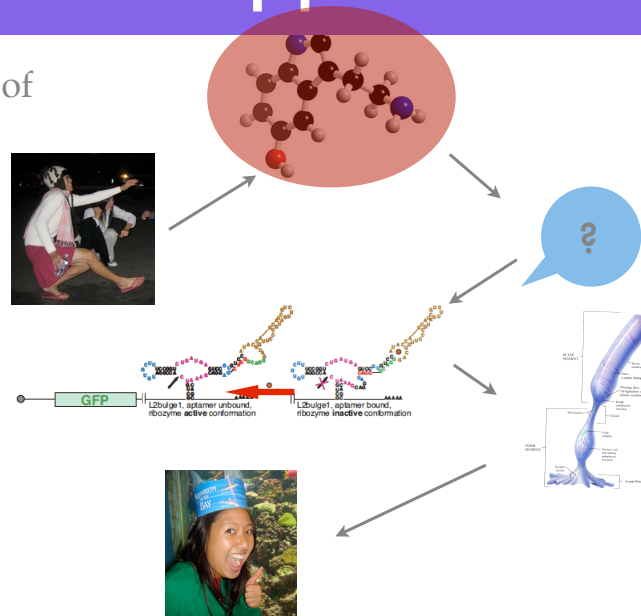


Complex Logic



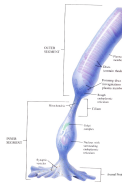
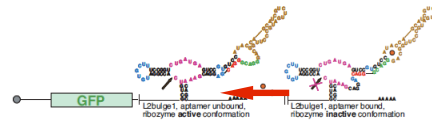
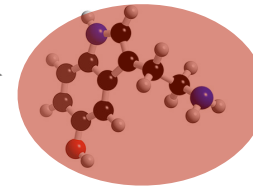
Theoretical Application

- Decreased levels of serotonin
- Proposed Sensor
- Ribozyme rearrangement
- GFP expression
- Photoreceptor activation

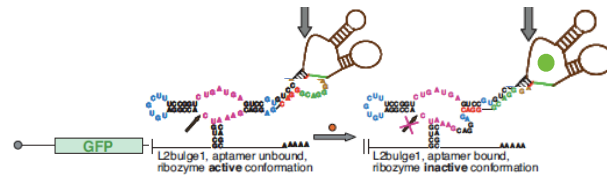


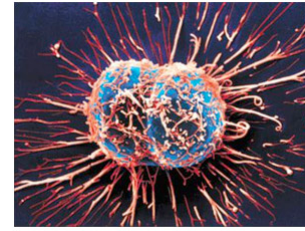
Theoretical Application

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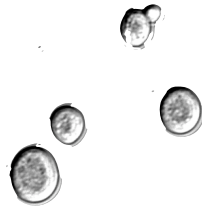


Adding to the Library



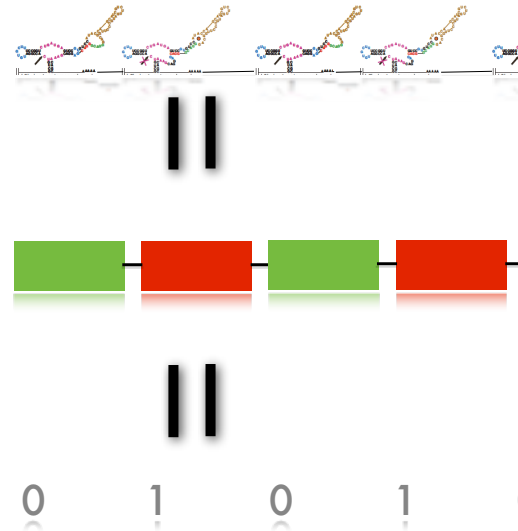


Use in New Genes or Organisms



Use of Logic Gates as Binary Code

- Computers use binary code
- Transistors create that binary code
- RNA-based switches can also create binary code



Information Gathering

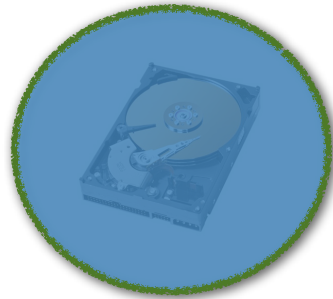
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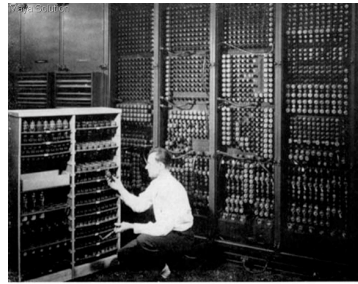
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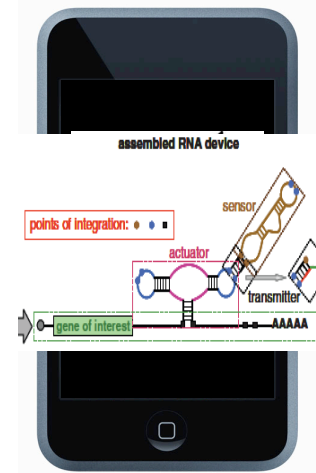
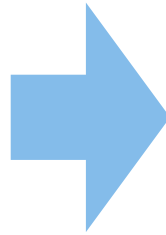
VS



The Value of an Idea



Replacing a bad tube meant checking among ENIAC's 19,000 possibilities.



The End

